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FIG.1A

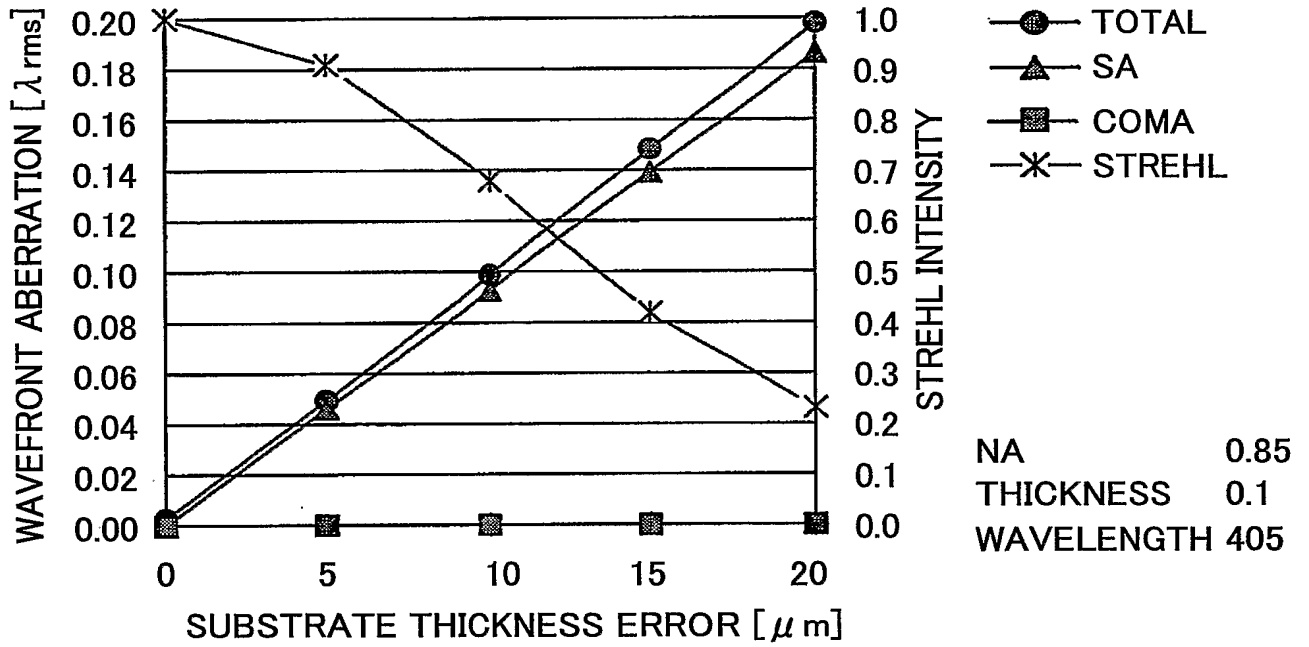
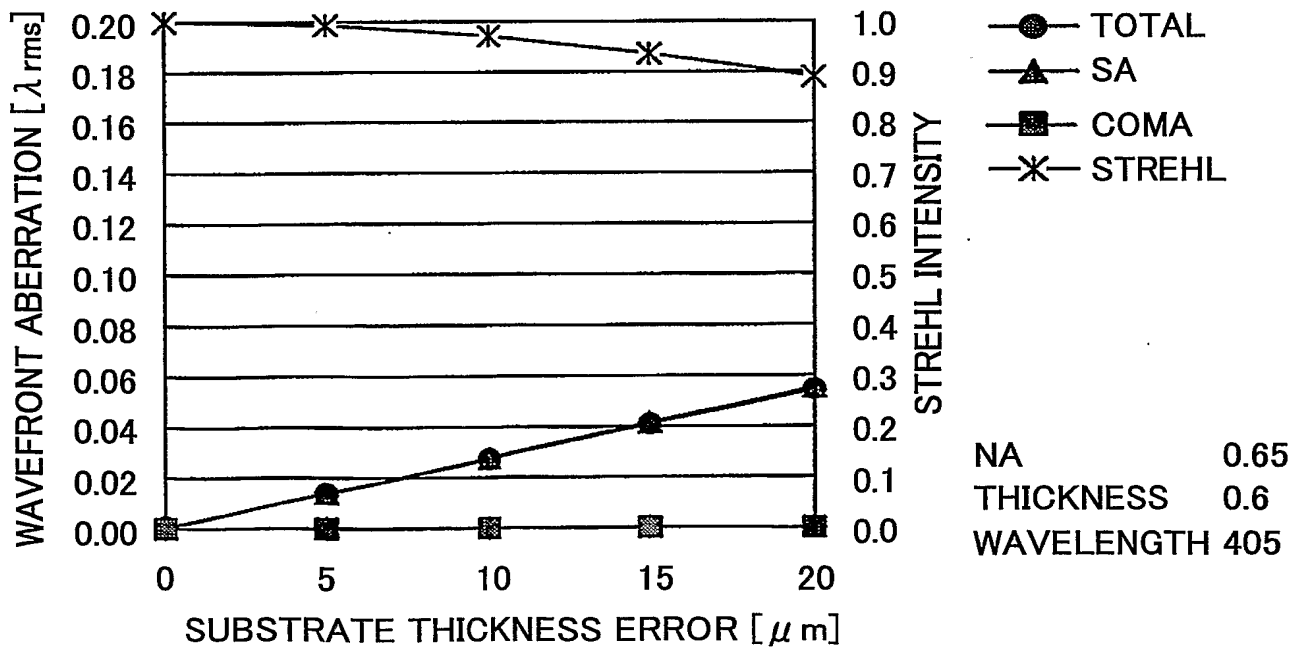


FIG.1B



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FIG.2A

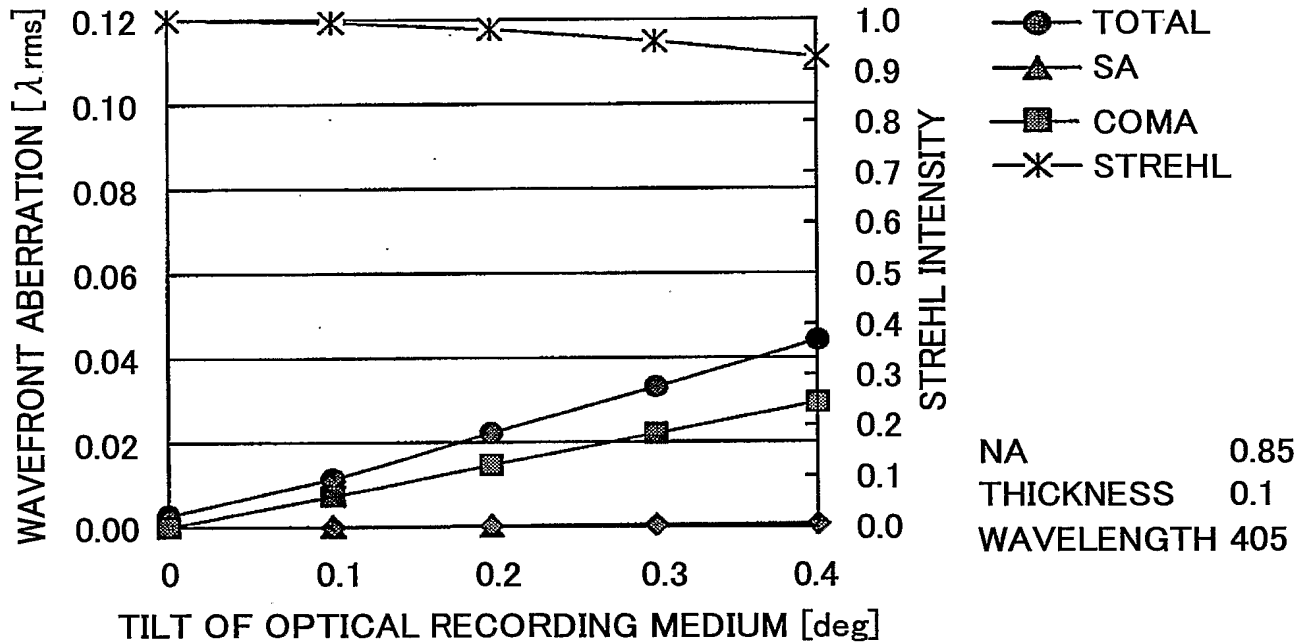
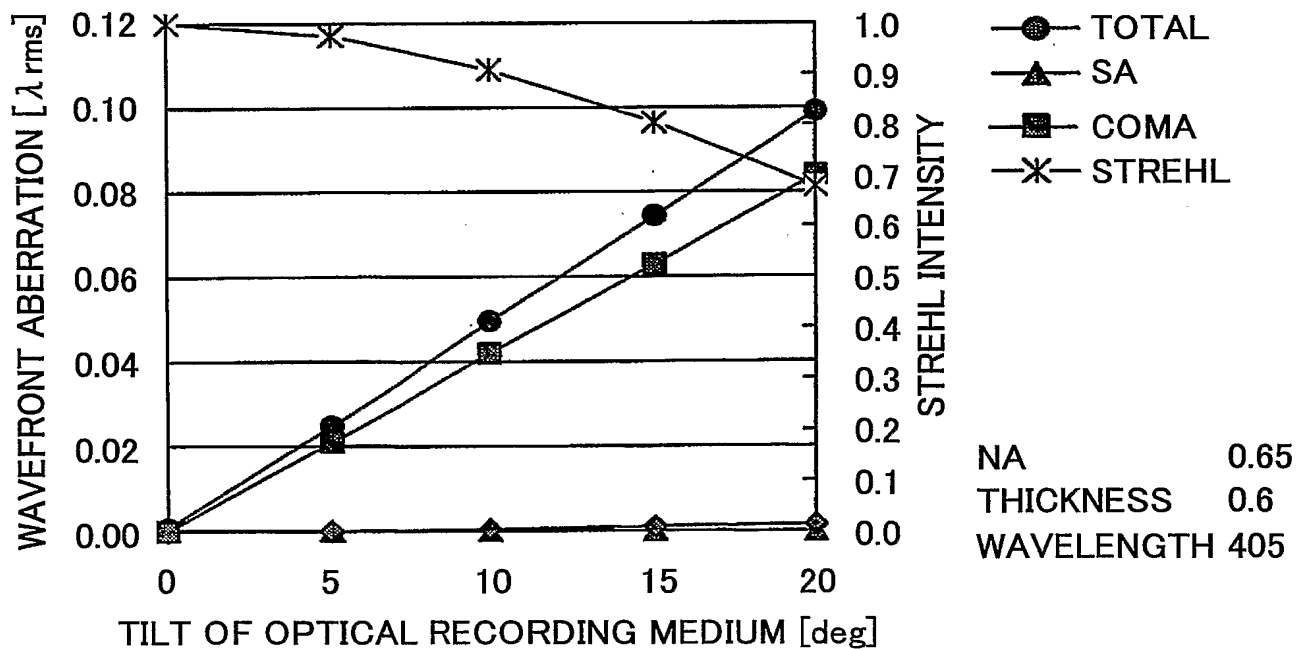
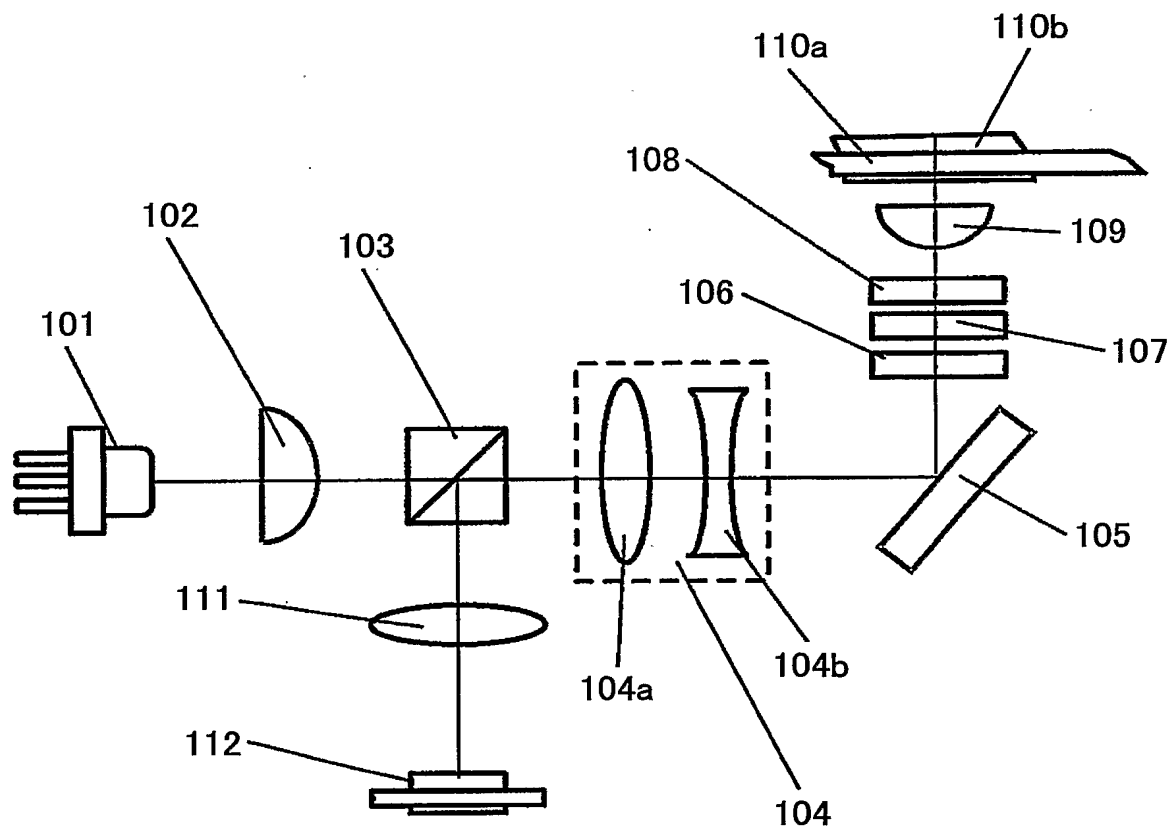


FIG.2B



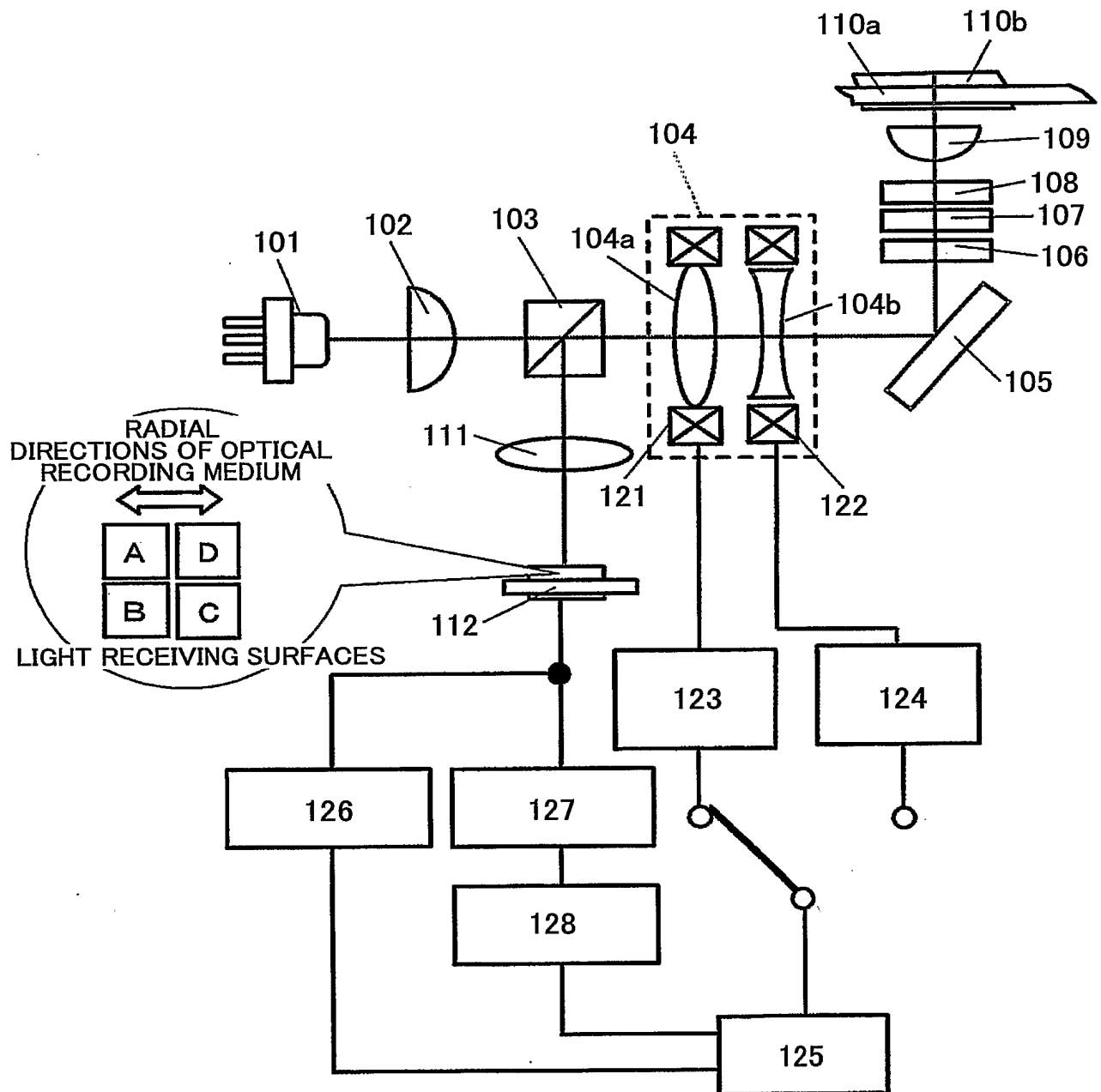
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FIG.3



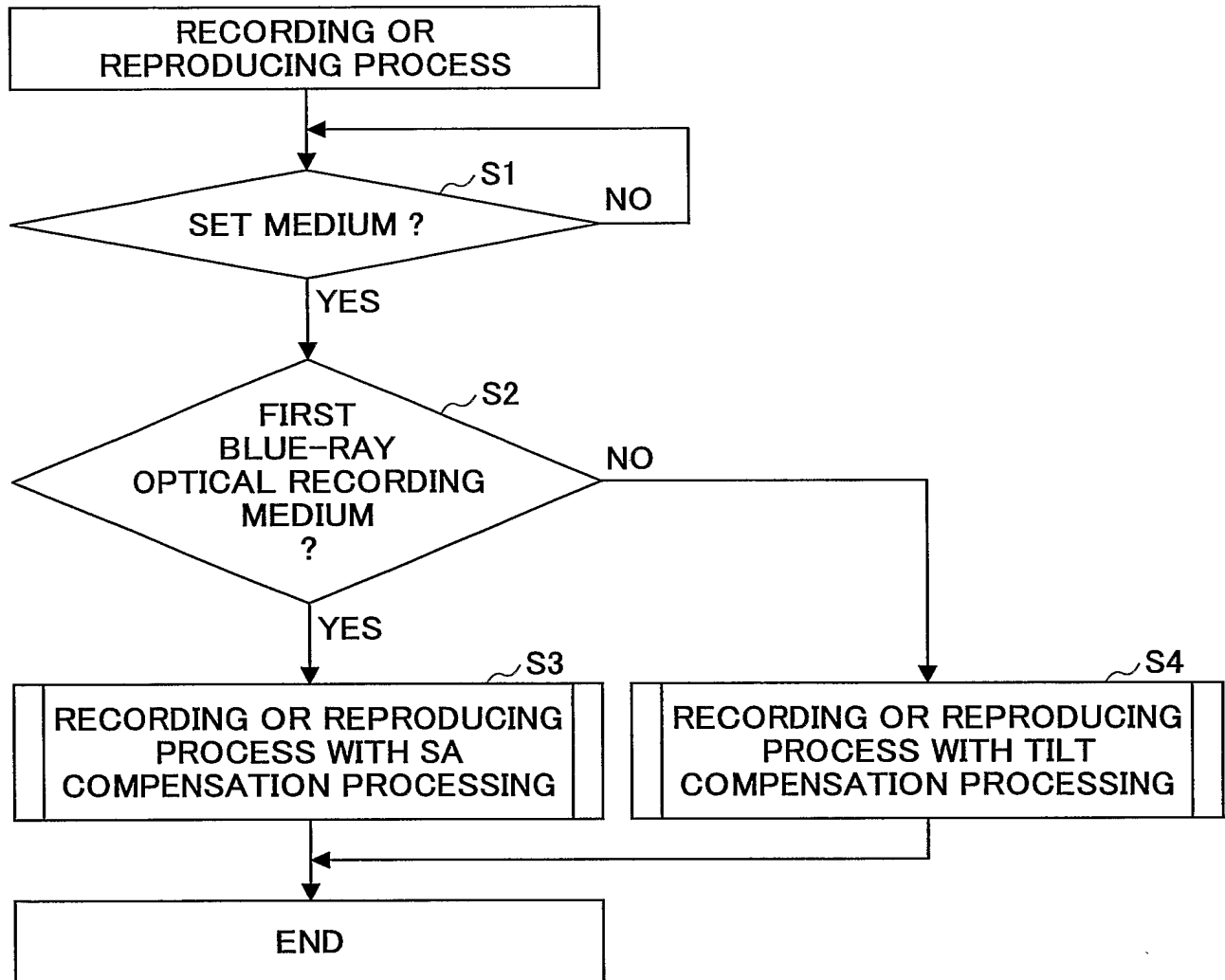
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FIG.4



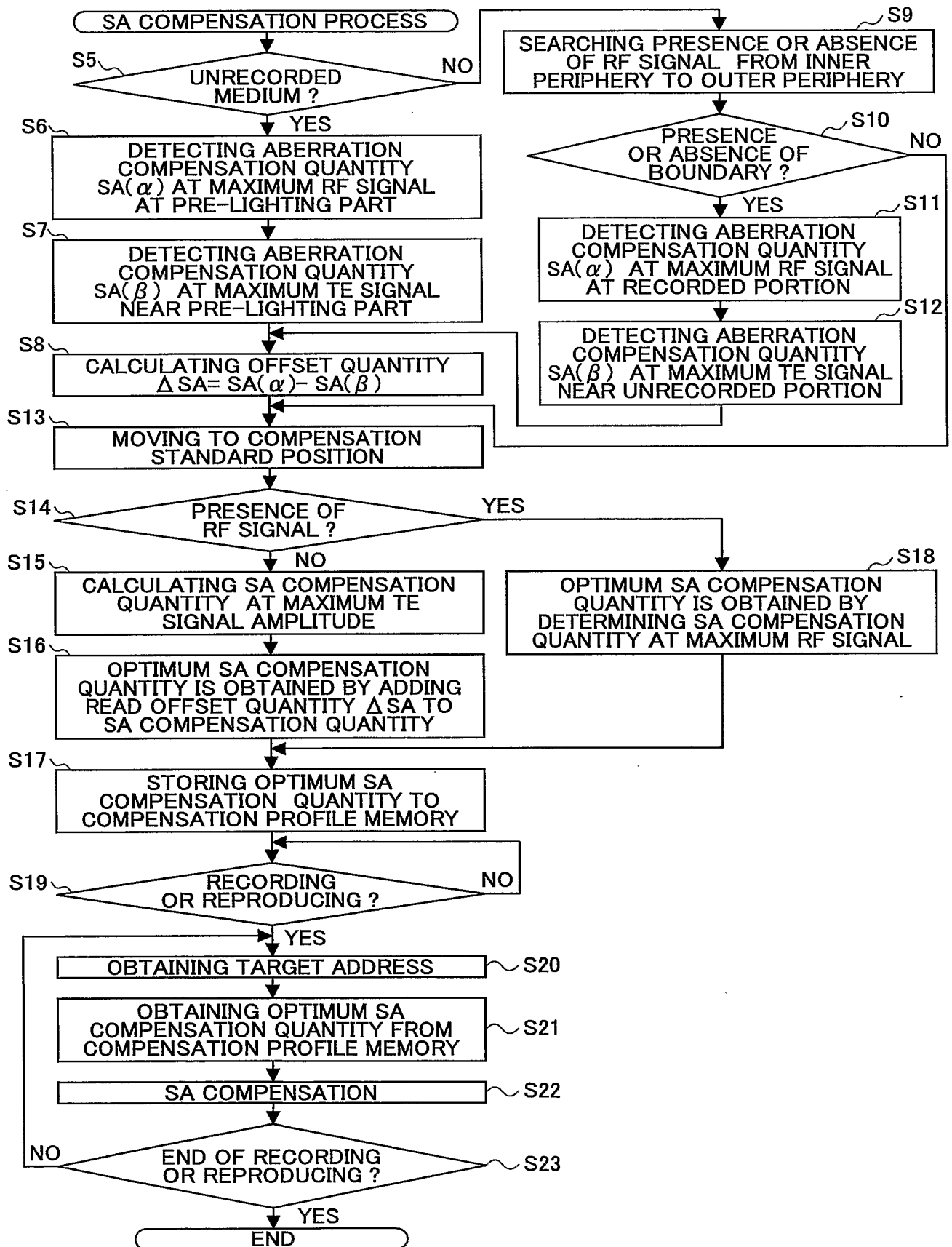
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FIG.5



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FIG.6



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FIG.7A

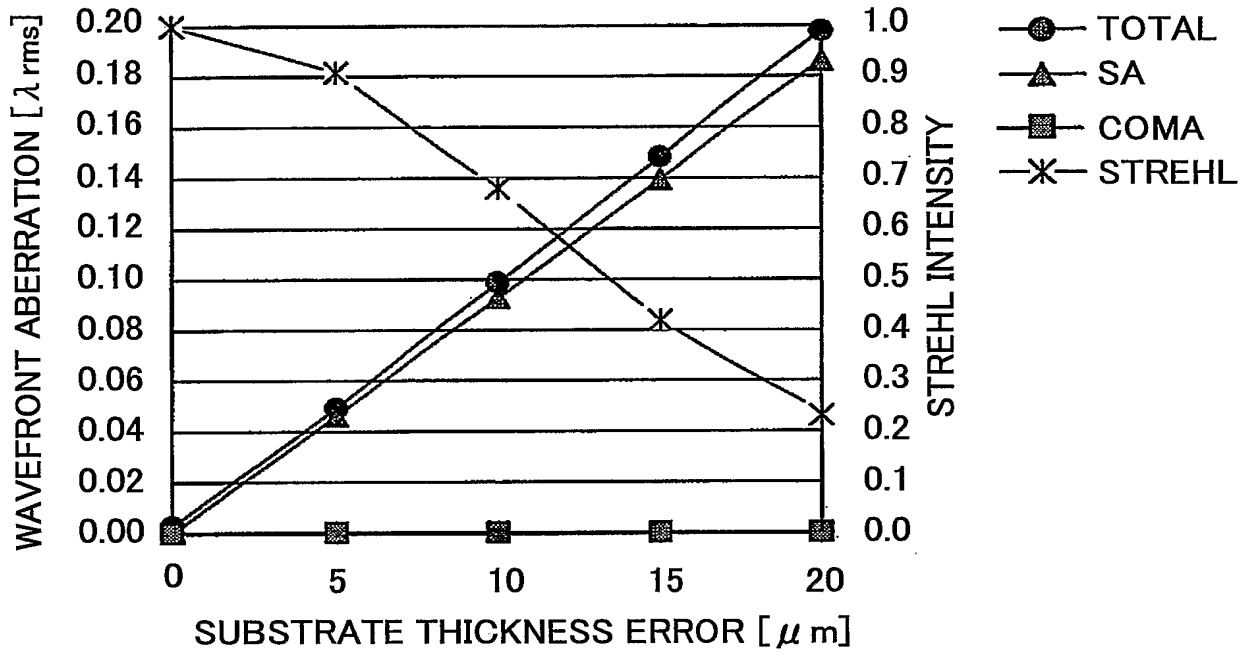
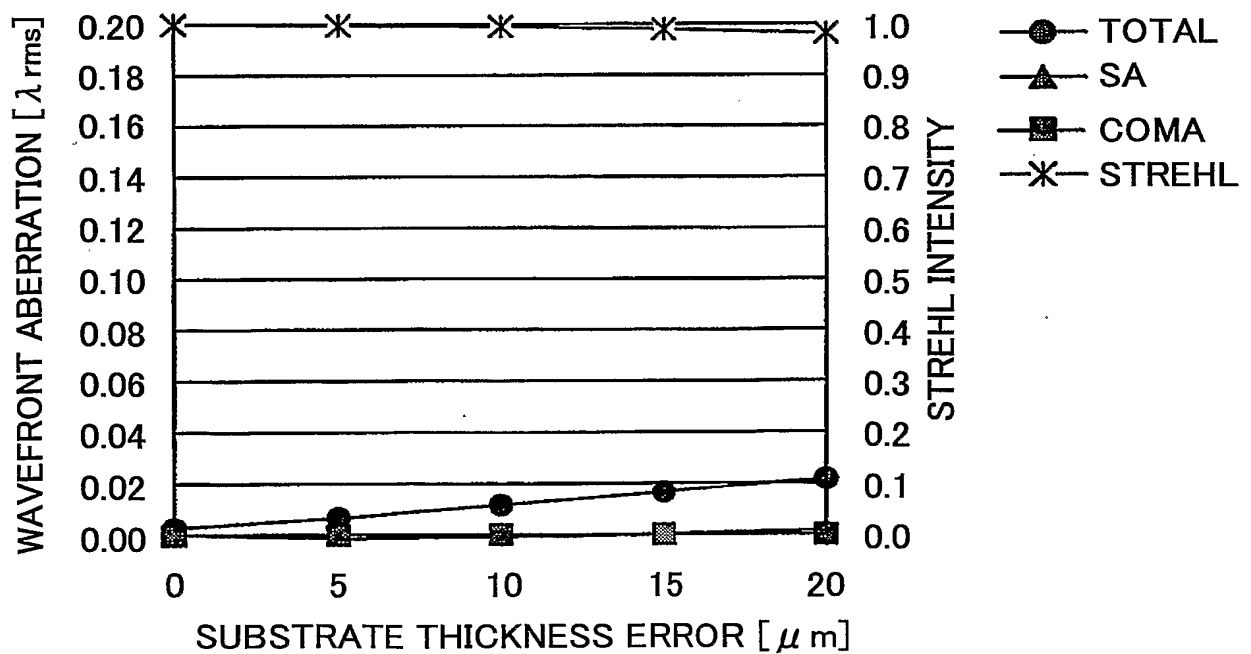


FIG.7B



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FIG.8A

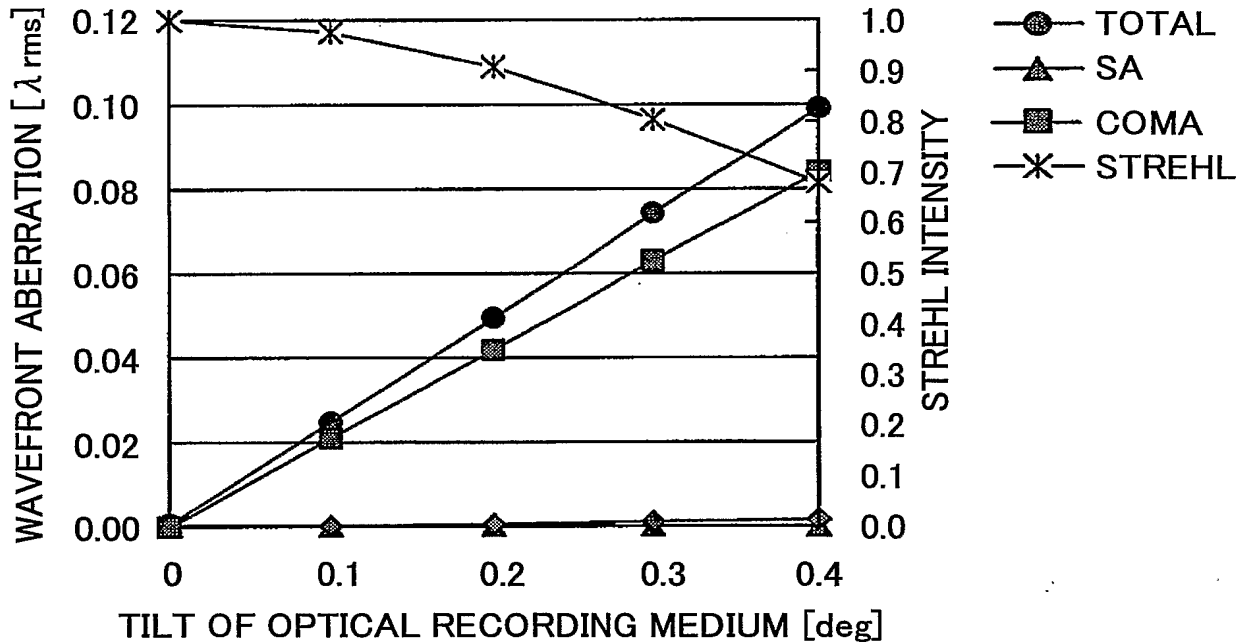
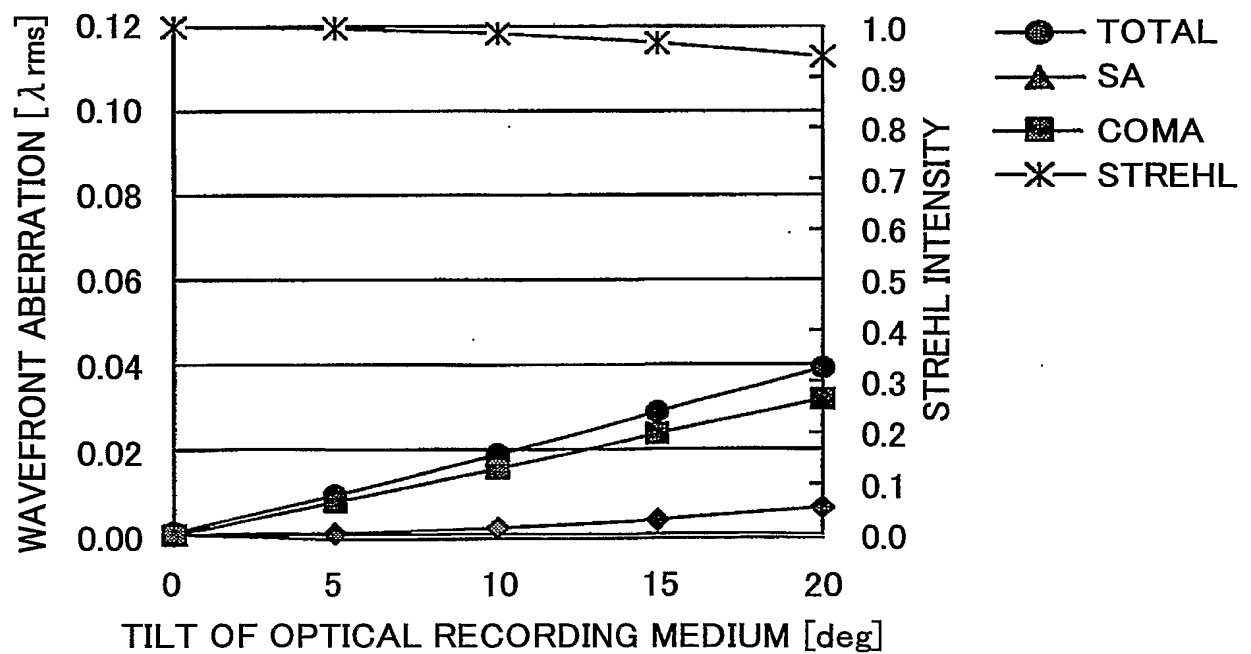


FIG.8B



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FIG.9A

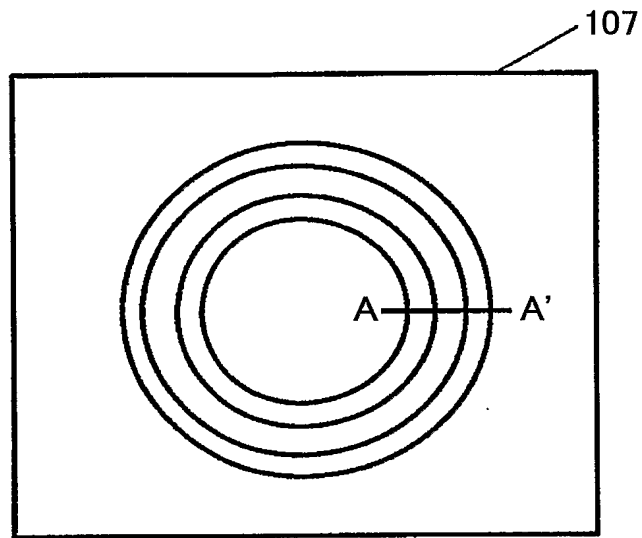


FIG.9B

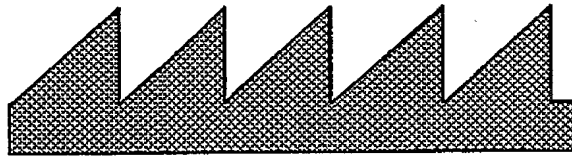
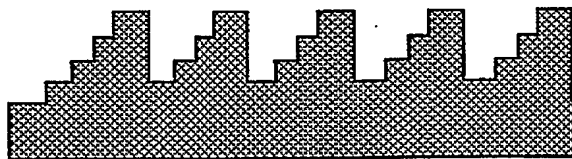


FIG.9C



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FIG.10A

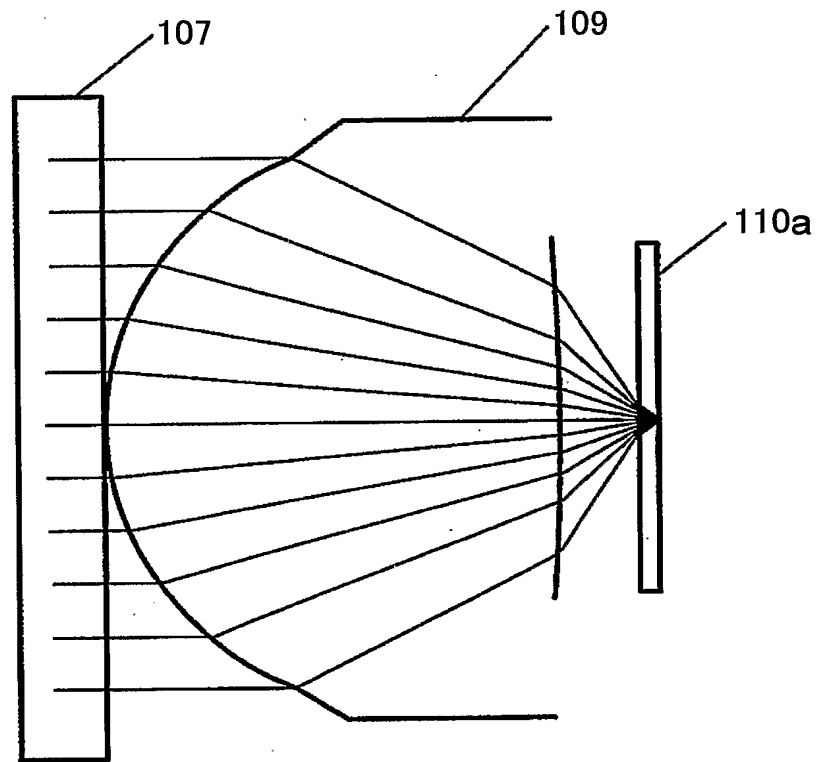
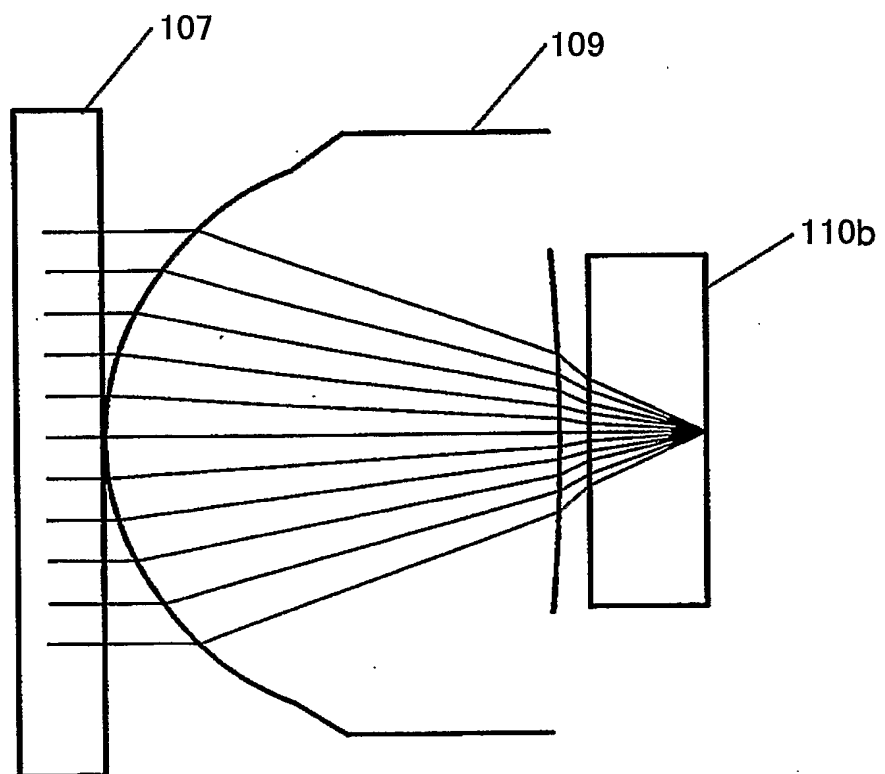
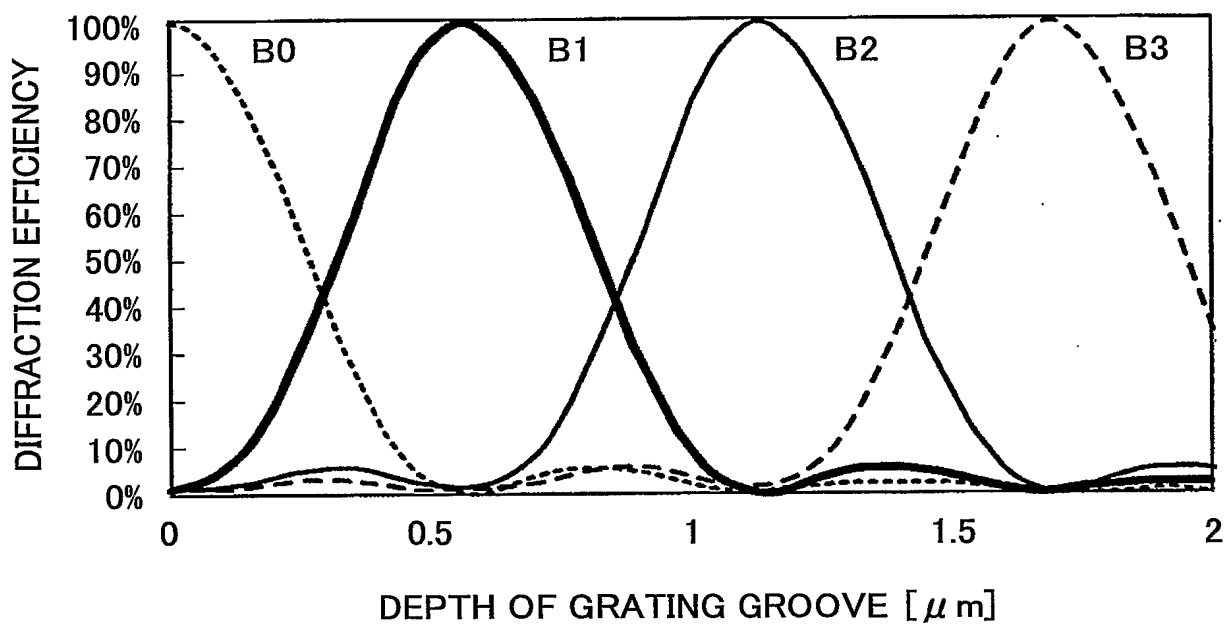


FIG.10B



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FIG.11



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FIG.12A

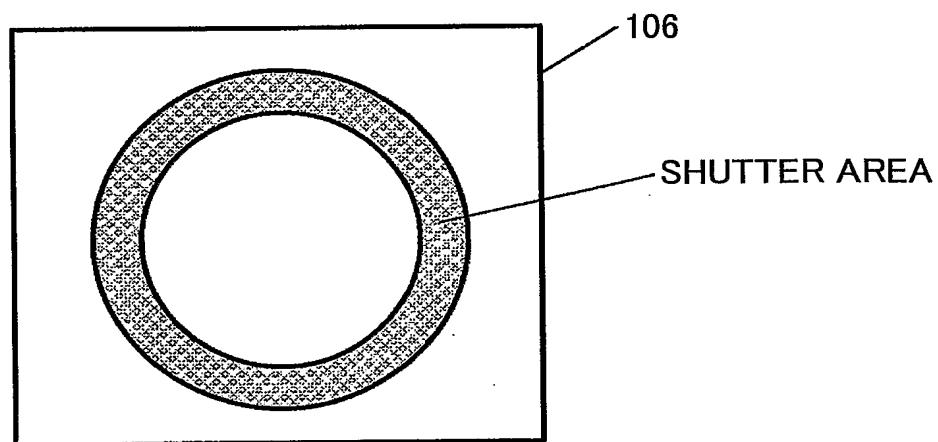
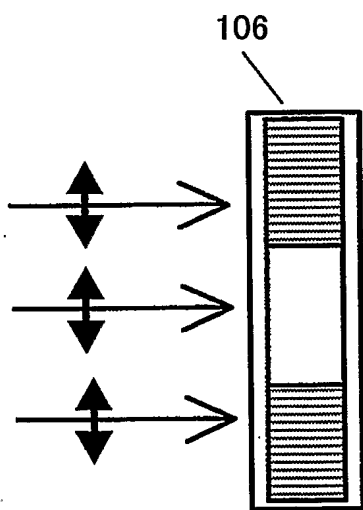
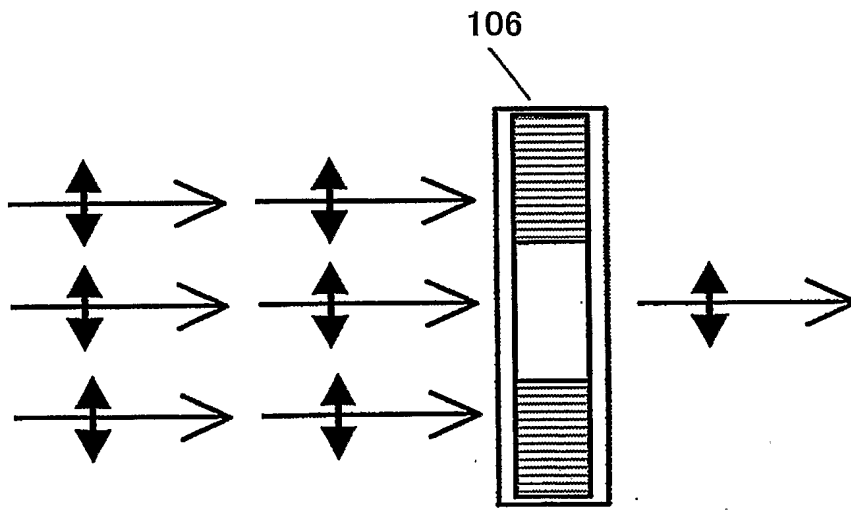


FIG.12B



LIQUID CRYSTAL: OFF

FIG.12C



LIQUID CRYSTAL: ON

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FIG.13A

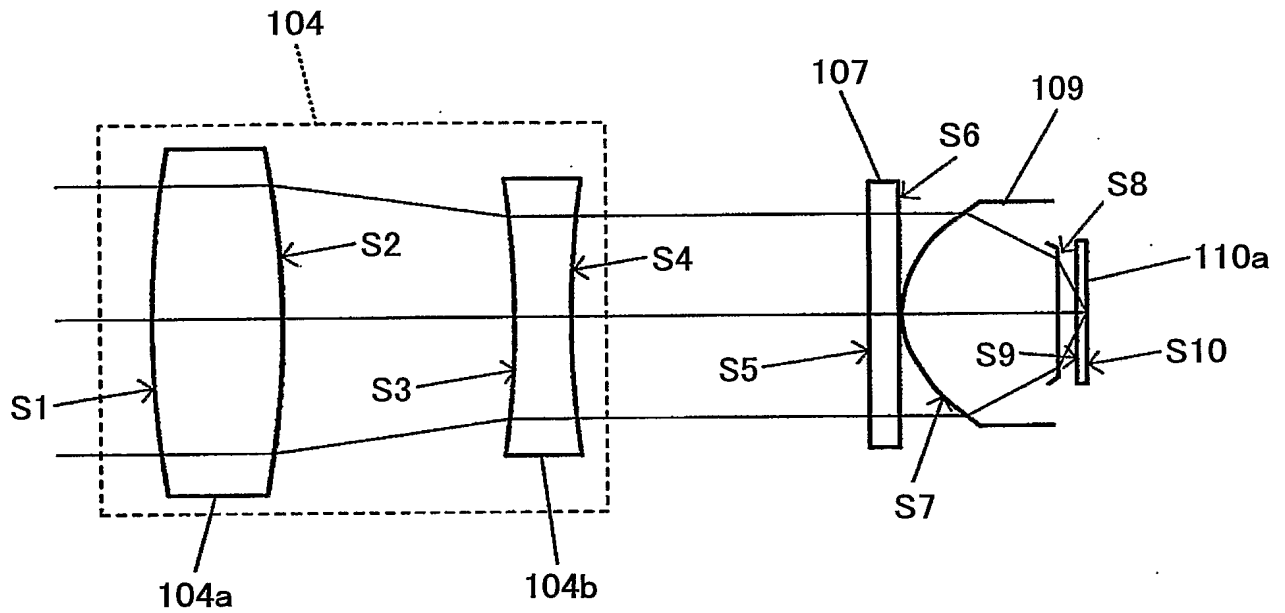
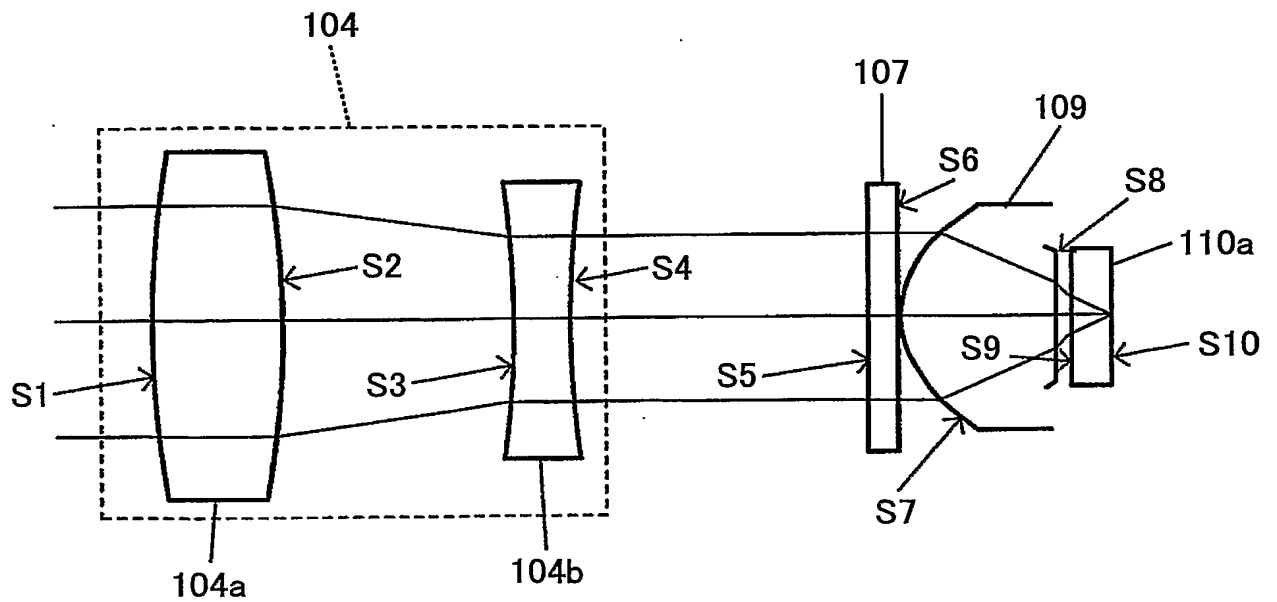


FIG.13B



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FIG.14

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	15.52	2.00	1.53
S2	-24.01	3.55	
S3	-15.67	1.00	1.80
S4	37.12	5.00	
S5 (STO)	INFINITY	0.6	1.72
S6	INFINITY	0.0	
	DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1) DIFFRACTION SURFACE COEFFICIENTS C1: 8.0361×10^{-3} C2: -8.8252×10^{-4} C3: -1.0901×10^{-3} C4: -6.8601×10^{-5} C5: -3.8433×10^{-6}		
S7	1.38	2.38	1.72
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: -0.671973 A: 0.108576×10^{-1} B: 0.887024×10^{-3} C: 0.615641×10^{-3} D: 0.305477×10^{-3} E: -0.235521×10^{-3} F: 0.954484×10^{-5} G: 0.403964×10^{-4} H: 0.599180×10^{-5} J: -0.871198×10^{-5}		
S8	-4.24	-0.43/0.15 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: 15.973519 A: 0.265234 B: -0.165180 C: -0.762341×10^{-1} D: 0.119223 E: 0.102416×10^{-1} F: -0.146044×10^{-2} G: -0.528214×10^{-2} H: -0.300544×10^{-2} J: 0.292188×10^{-2}		
S9	INFINITY	0.1/0.6 (NOTE 1)	1.53
S10	INFINITY	0.0	
EPD: ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL: WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM / SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.15A

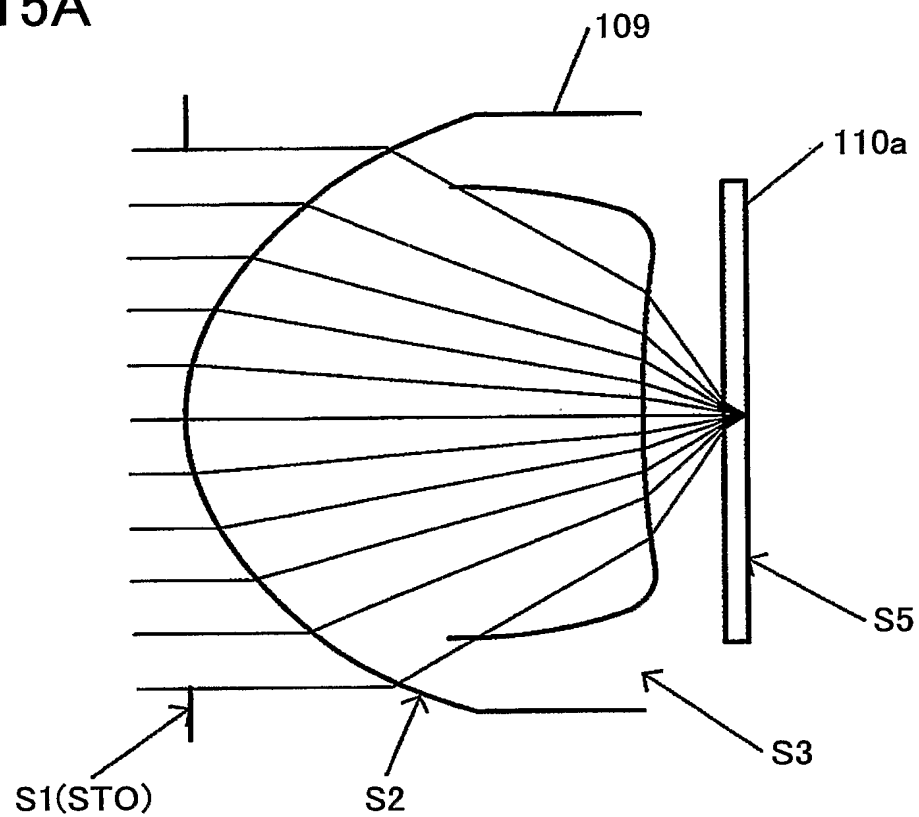
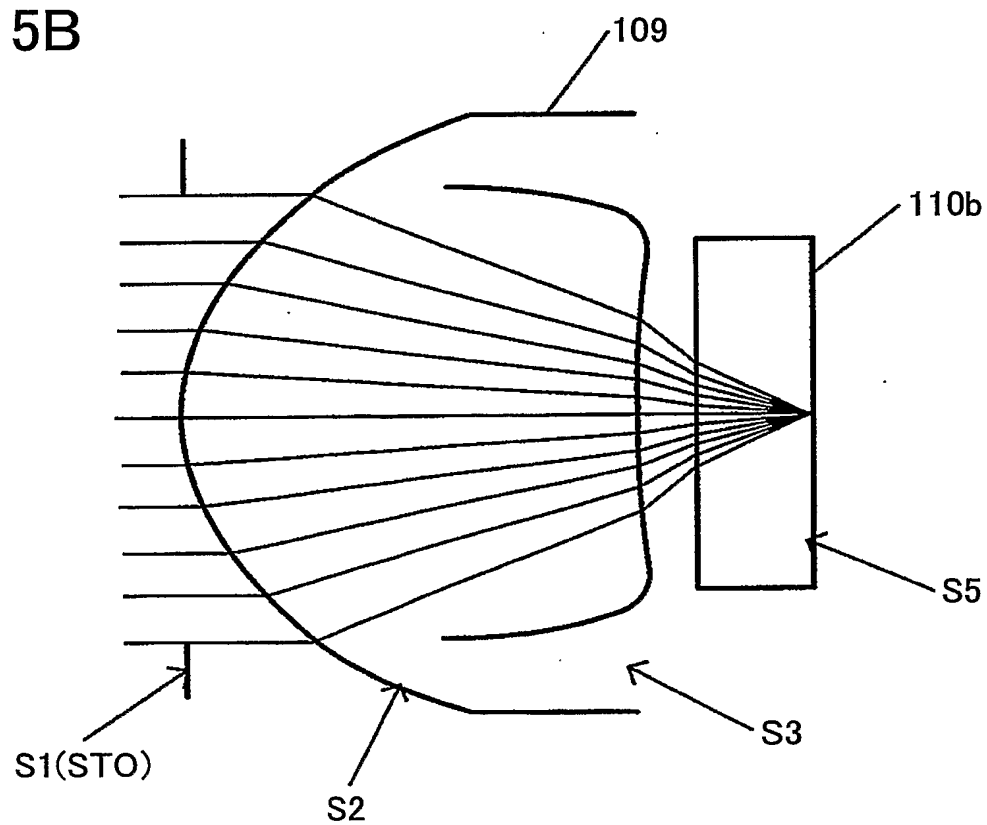


FIG.15B



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FIG.16

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1 (STO)	INFINITY	0.6	
S2	1.38	2.38	1.72
	DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1)		
	DIFFRACTION SURFACE COEFFICIENTS C1: $2.7423 \times 10^{(-2)}$ C2: $1.0502 \times 10^{(-3)}$ C3 : $-5.9391 \times 10^{(-4)}$ C4: $-3.7025 \times 10^{(-4)}$ C5: $1.2757 \times 10^{(-4)}$		
S3	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-6.6426 \times 10^{(-1)}$ A: $1.0604 \times 10^{(-2)}$ B: $2.1601 \times 10^{(-3)}$ C : $6.0889 \times 10^{(-5)}$ D: $4.8057 \times 10^{(-4)}$ E: $-7.7885 \times 10^{(-5)}$ F : $4.7808 \times 10^{(-5)}$		
	-4.80	-0.43/0.29 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:12.516971 A:0.279855 B:-.141274 C : $-.250439 \times 10^{(-1)}$ D:0.108911 E:-.801930 $\times 10^{(-1)}$ F : $-.146045 \times 10^{(-2)}$ G:-.528214 $\times 10^{(-2)}$ H:-.300544 $\times 10^{(-2)}$ J : $0.292188 \times 10^{(-2)}$		
S4	INFINITY	0.1/0.6 (NOTE 1)	1.53
S5	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL:WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.17

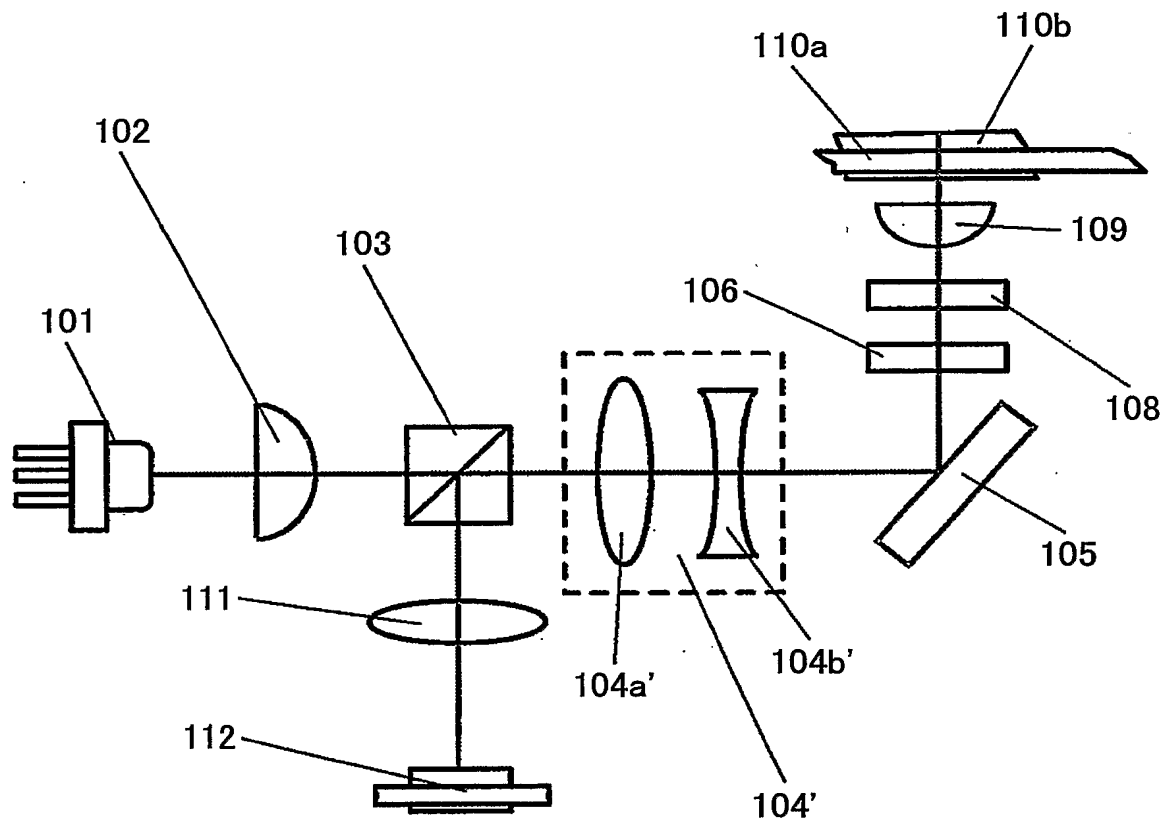
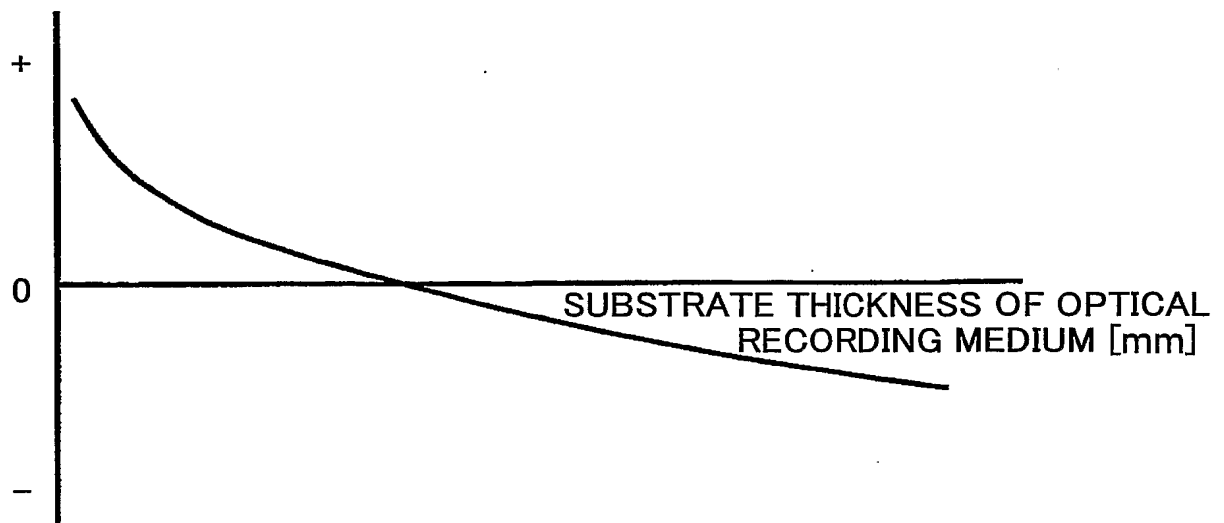


FIG.18

MAGNIFICATION



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FIG.19A

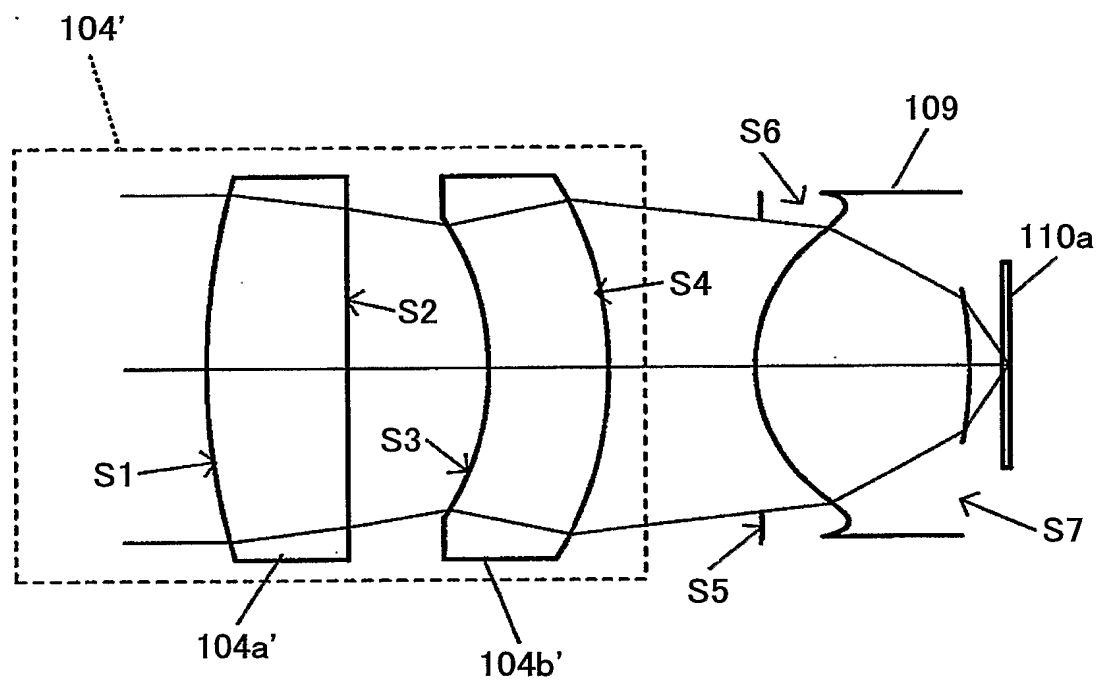
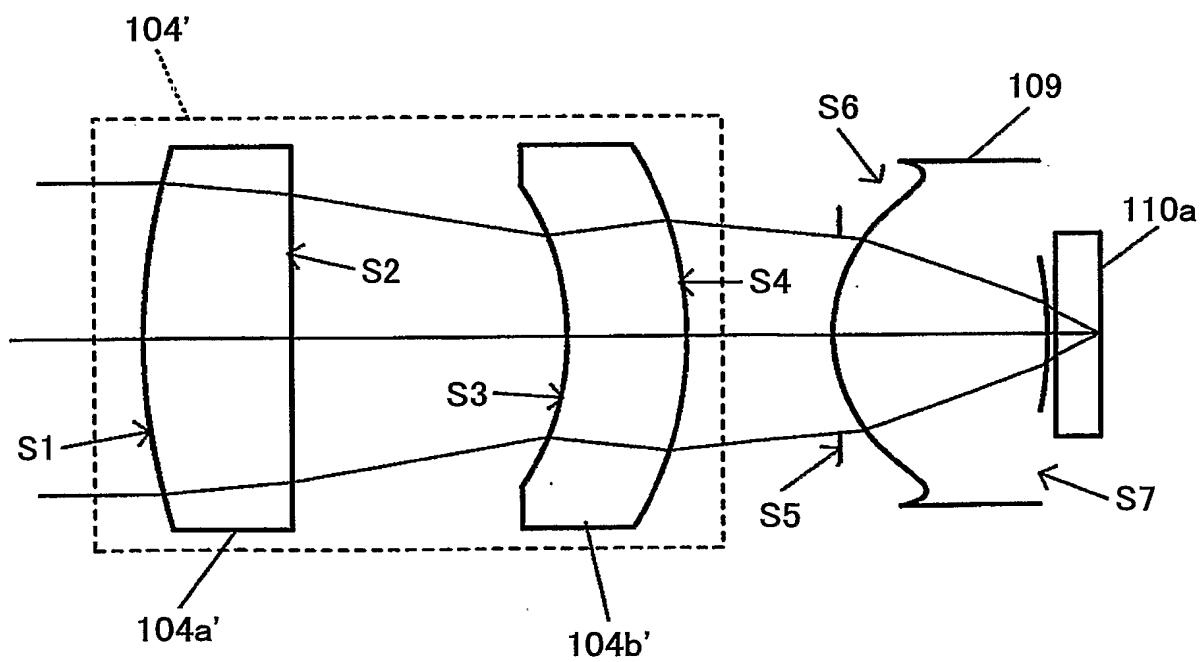


FIG.19B



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FIG.20

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	7.56	2.0	1.53
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:0.972983 A: 0.371207×10^{-3} B: $-.478667 \times 10^{-4}$ C : $-.901945 \times 10^{-5}$ D: $-.814374 \times 10^{-6}$		
S2	40.91	2/4.1 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.76.180141$ A: $-.551113 \times 10^{-3}$ B: $-.604159 \times 10^{-4}$ C : $-.264014 \times 10^{-4}$ D: 0.307055×10^{-7}		
S3	-3.54	1.7	1.80
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.031141$ A: 0.286777×10^{-3} B: $-.248176 \times 10^{-3}$ C : $-.146269 \times 10^{-4}$ D: $-.160400 \times 10^{-4}$		
S4	-4.35	0.0	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.0751196$ A: $-.557062 \times 10^{-4}$ B: $-.818406 \times 10^{-4}$ C : $-.451735 \times 10^{-4}$ D: 0.195625×10^{-5}		
S5 (STO)	INFINITY	0.6	1.72
S6	1.90	2.90	1.72
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-.0638807$ A: 0.515357×10^{-2} B: 0.536542×10^{-3} C : 0.155822×10^{-4} D: 0.693345×10^{-5} E: $-.144620 \times 10^{-4}$ F : $-.464699 \times 10^{-7}$ G: 0.607353×10^{-6} H: 0.816724×10^{-7} J : $-.863344 \times 10^{-7}$		
S7	-5.49	0.51/0.12 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K:27.747443 A:0.181893 B: $-.209173$ C : 0.152146 D: $-.292109 \times 10^{-1}$ E: 0.432555×10^{-3} F : $-.346960 \times 10^{-4}$ G: $-.705877 \times 10^{-4}$ H: $-.225917 \times 10^{-4}$ J : 0.123545×10^{-4}		
S8	INFINITY	0.1/0.6 (NOTE 1)	1.53
S9	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER (mm)		3.8/2.3 (NOTE 1)	
WL:WAVELENGTH (nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.21

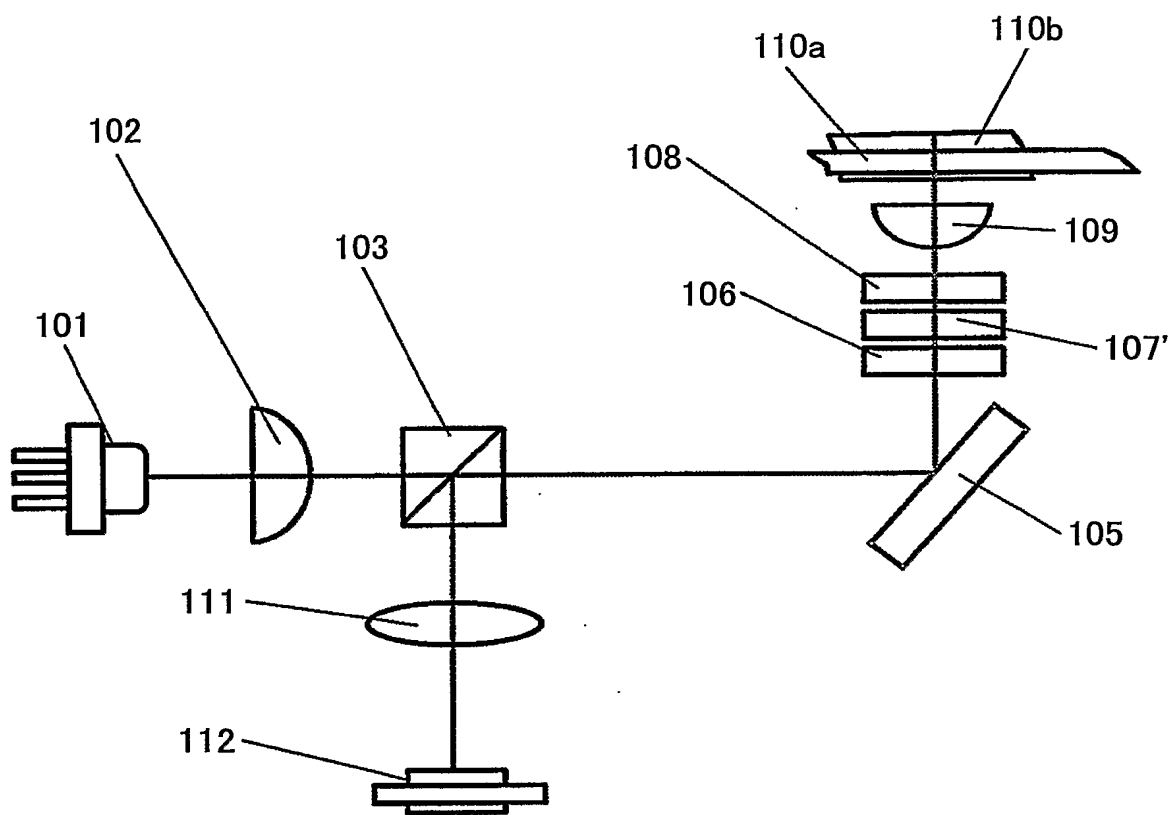
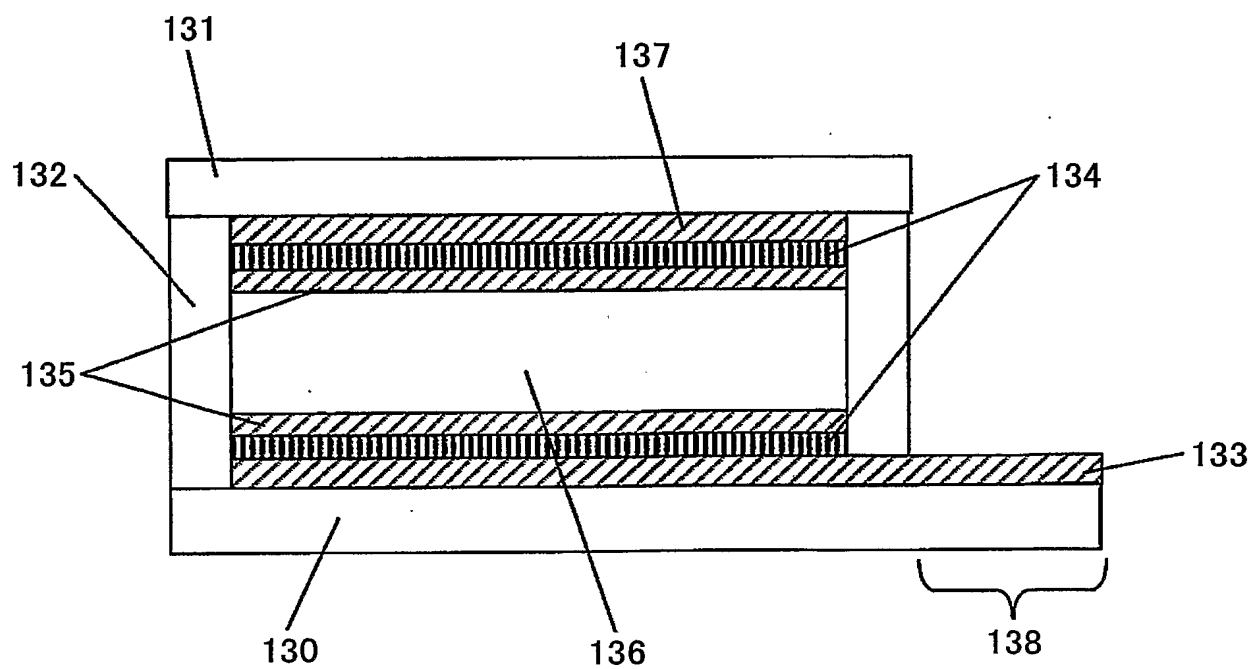
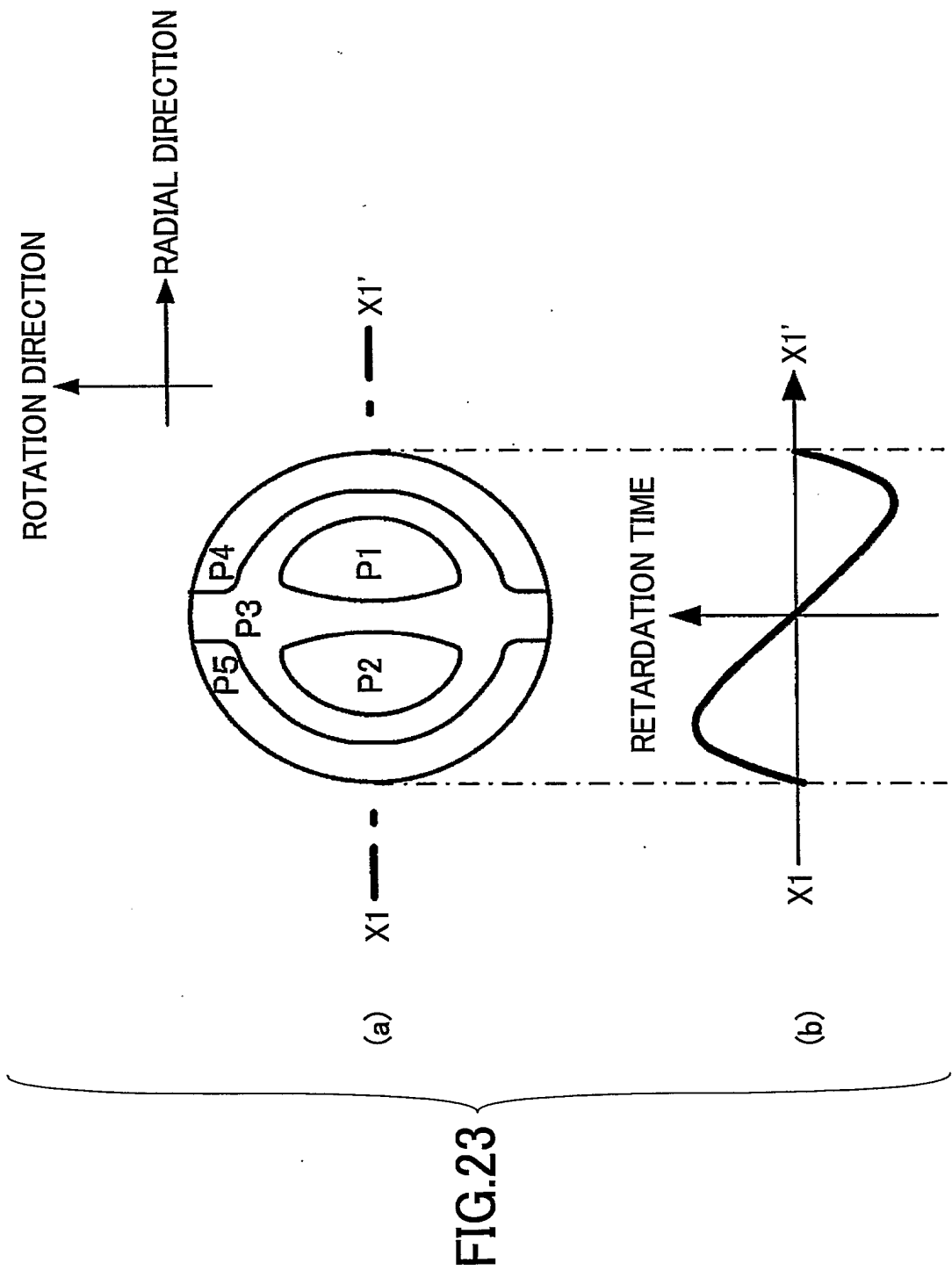


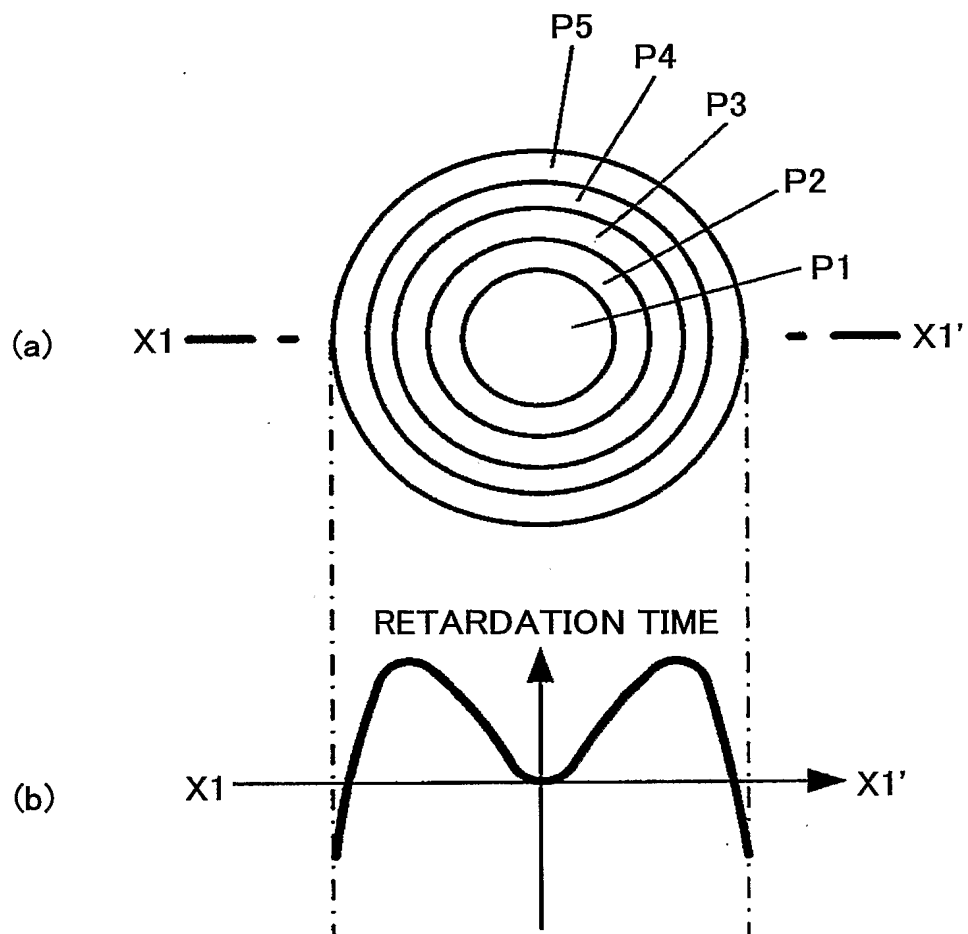
FIG.22

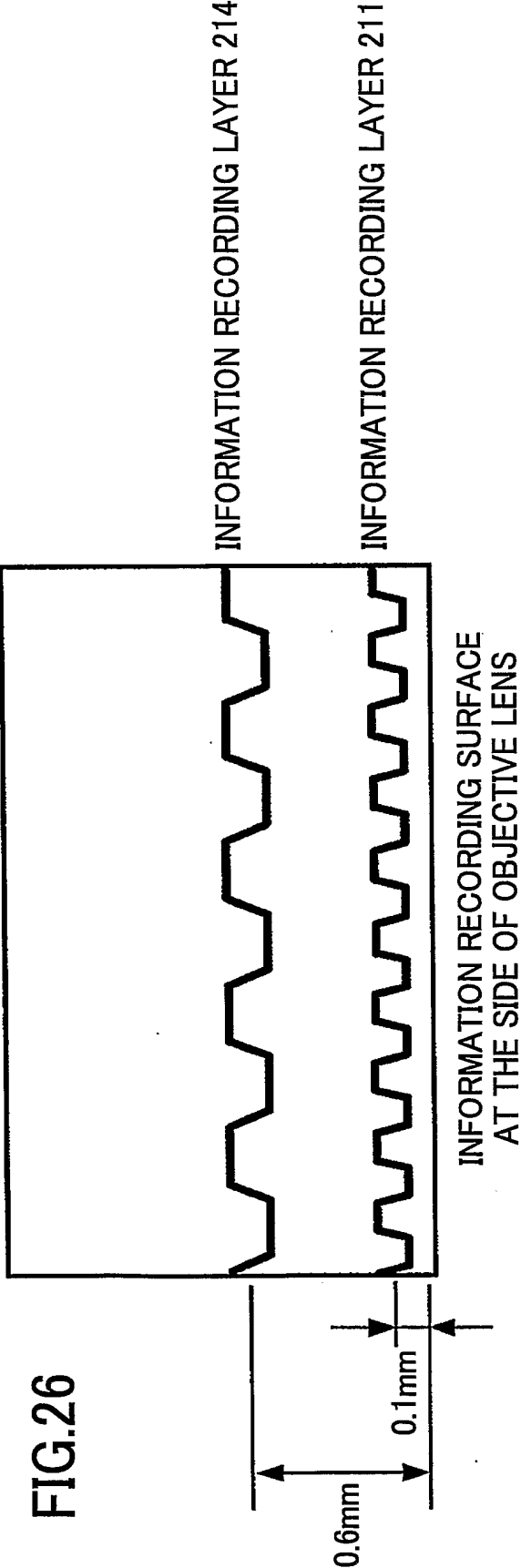
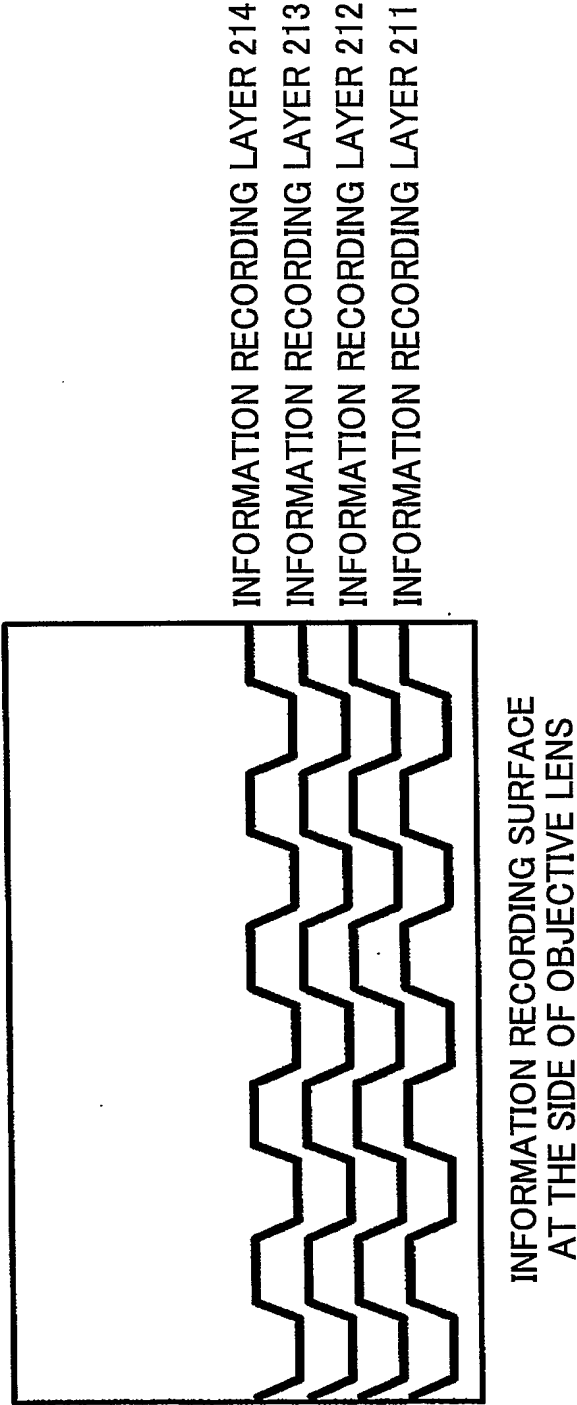




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FIG.24





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FIG.27

